

# Noise sensitivity in 17 dog breeds: Prevalence, breed risk and correlation with fear in other situations

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## Highlights

- Seventeen dog breeds was included in the study.
- Across the 17 breeds there was significant ( $p < 0.01$ ) differences in the frequencies of fearful dogs.
- There was a significant trend of increasing fear with older age.
- Response to fireworks, loud noises/gunshots and thunderstorms frequently co-occurred.
- Female dogs had higher odds of noise sensitivity compared to male dogs (OR = 1.3  $p < 0.001$ ).

## Abstract

A web-based survey was conducted to estimate prevalence of noise sensitivity in 17 dog breeds in Norway ( $n = 5257$ ). Major focus was on noise from fireworks, loud noises (bang/gunshots), thunderstorms and heavy traffic. The study also investigated risk factors as well as correlation with some other fear responses. On average approximately 23% of the dogs were reported to be fearful of noises. Fear in situations with fireworks had the highest frequency; situations with loud noises/gunshots, thunderstorms and heavy traffic following in decreasing order. Across the 17 breeds there was significant ( $p < 0.01$ ) differences in the frequencies of fearful dogs. Norwegian Buhund, Irish Soft Coated Wheaten Terrier and Lagotto Romagnolo were breeds that had the highest frequency of noise sensitivity while Boxer, Chinese Crested and Great Dane had lower

frequencies of fear created by noise. There was a significant trend of increasing fear with older age. Response to fireworks, loud noises/gunshots and thunderstorms frequently co-occurred. Female dogs had higher odds of noise sensitivity compared to male dogs (OR = 1.3  $p < 0.001$ ), and neutered dogs had higher odds of being fearful of noises than intact dogs (OR = 1.73  $p < 0.001$ ).

The dogs most fearful of noises also had higher odds of showing separation related behavior, being fearful in novel situations and required longer time to calm down after a stressful event compared to dogs less fearful of noises